



LYME DISEASE

and other TICK RELATED DISEASES

NASSAU COUNTY DEPARTMENT OF HEALTH

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TICK AND DISEASE

In recent years there has been an increase in awareness and concern about tick-borne diseases. Ticks may carry several different diseases including: Lyme Disease, Ehrlichiosis, Babesiosis and Rocky Mountain Spotted Fever. Lyme disease is now the most prevalent tick-borne illness in our area. Experts attribute the current spread of Lyme disease to the expanding habitats of the tick that carries it. No one knows exactly why the spread has occurred, but two possible theories are the flight of migratory birds and the increasing deer population. Individuals living in or visiting affected areas, including Nassau County, should be aware of the dangers of Lyme Disease and other tick related illnesses.

LYME DISEASE

Lyme disease is an infection caused by the bite of a deer tick (*IXODES SCAPULARIS*) that has been infected with the disease. It is important to remember that a tick bite does not always result in Lyme disease. However, when the tick that is carrying the spirochete (*Borrelia burgdorferi*) transmits the disease to a human, the person must be medically treated as soon as possible.

Because research indicates it takes an infected tick between 24 - 48 hours to transmit Lyme disease, a check of the body every 2-3 hours to remove ticks will help prevent transmission of the disease. A full body check should be done at home. Pets should be checked regularly for ticks.

Symptoms

The medical histories of most Lyme disease patients indicate that they were unaware of being bitten by a tick.

Many have noticed an unusual red skin rash at the onset of their disease that expanded for several days or weeks. More than one rash may appear. The red patches may be warm, but are generally not painful and usually do not itch. Some also experience headaches, fever, swollen glands, malaise (tiredness), sore muscles and joint pain. These signs are important because medical intervention with antibiotics at this point can avoid later serious complications from the disease. Left untreated, the disease can produce complications to the heart, joints and the nervous system. Still later, in the absence of medical treatment or with inadequate treatment, chronic arthritic and neurological problems can occur. Physicians need to take a blood test to assist in the diagnosis.

Treatment

Antibiotics help in all stages of the disease but the earlier the treatment begins, the easier it is to prevent long-term and serious illness. Because the disease is often difficult to diagnose and often produces variable symptoms, it is important to consult your doctor.

Vaccine

Lyme disease vaccine is no longer available. In 2002, the manufacturer of the Lyme disease vaccine discontinued the production and distribution of the vaccine (Lymerix). They also recommended that no additional doses be administered. The vaccine never replaced the need to always follow all the recommendations to prevent tick bites.

EHRlichiosis

Ehrlichiosis is a tick-borne bacterial disease. It may be spread by several different types of ticks including the deer tick, the dog tick and the lone star tick. Most cases occur from April to October. The illness begins one to three weeks after the tick bite.

Symptoms

The most common symptoms of this disease are fever, muscle aches, weakness and headaches. People may also have confusion, nausea, vomiting and joint pain; a rash is not common with this disease. Laboratory tests may show a low white blood count, low platelet count and abnormal liver function tests.

Treatment

Specific antibiotic treatment is usually very effective. Special laboratory tests can detect recent infection with the Ehrlichiosis bacteria. However the diagnosis may be made based on clinical symptoms and a history of exposure to ticks because these tests are not readily available.

BABESiosis

Babesiosis is a rare tick-borne disease caused by an infection with a red blood cell parasite. It is caused by the bite of a deer tick that is infected with the parasite *Babesia microti*. Severe cases can occur in people who have had their spleens removed.

Symptoms

The disease can cause fever, chills, fatigue, muscle aches, jaundice and hemolytic anemia lasting from several days to several months.

Treatment

Some drugs used in the treatment of malaria are effective in patients with Babesiosis. However standardized treatments for Babesiosis have not yet been developed.

ROCKY MOUNTAIN SPOTTED FEVER

Rocky Mountain spotted fever is a tick-borne disease caused by a *Rickettsia bacillus*. In the eastern portion of the United States it is spread by the American dog tick. Like Lyme disease, most cases occur in the spring and summer. The illness begins several days after a tick bite.

Symptoms

The symptoms of this disease are more dramatic than Lyme disease and usually include high fever, head-

ache, chills and severe fatigue. A spotted rash develops on the hands and feet and spreads over the entire body.

Treatment

As with Lyme disease, early detection and treatment is the best response to limit the severity of the illness. Rocky Mountain spotted fever responds to antibiotic therapy. Physicians must take blood tests to confirm the diagnosis.

PREVENTING TICK-BORNE DISEASES

It is possible to reduce the risk of a tick bite and still continue to enjoy outdoor activities in Nassau County and elsewhere by following these simple precautions:

- **Avoid the favored habitats of the tick such as tall grass, bushes and woods.** Walk in the center of woodland trails to avoid brushing against vegetation bearing ticks.

- **Dress for the outdoors by wearing light colored clothes.** Wear long pants tucked into socks or boots. Long sleeves protect bare arms. Do not go barefoot or in sandals. Routinely inspect clothing for ticks.

- **Caution! If deciding to use a chemical tick repellent, carefully apply it according to the directions on the container.** When overused or used improperly, repellents may cause allergic and toxic reactions. Do **not** allow children to apply repellents to themselves.

- **Check your children and yourself for ticks frequently when outdoors.** Children are at greater risk because they spend more time outside and tend to play in the natural habitat of ticks. At night carefully inspect yourself and your children, especially in areas of the groin, waistline, underarms, neck and scalp. It takes at least 24 hours for an infected tick to transmit Lyme Disease. It is essential to check for ticks every two to three hours while outside. A complete check should be done after undressing at home.

- **Check pets for ticks too!** You can be bitten in your home if a pet brings a tick inside. Flea and tick collars may help.

- **Keep grass cut short and remove any unwanted vegetation around your home.** The transition area between woods and your yard is an ideal environment for ticks.

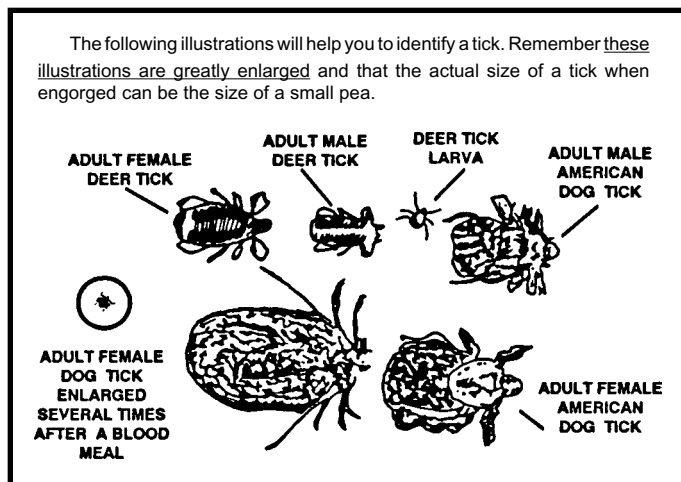
• Check and check again for ticks, especially if you are pregnant. Recent evidence indicates Lyme Disease can cross the placenta to the fetus. If you are pregnant and have been exposed to Lyme disease, it is urgent that you talk to your doctor.

TICK DISTRIBUTION

Ticks can be found in any outdoor location with vegetation, even a backyard. However, the more likely spots are

- wooded areas and adjacent grasslands
- high grass
- dense shrubbery
- areas adjacent to salt marshes

Ticks can be carried by a pet, a field mouse or other animal that has been in the above areas. Ticks attach themselves to people or animals that brush against them in tall grass or shrubbery. Ticks feed by biting the person or animal and do not cause disease unless the ticks are infected.



TICK IDENTIFICATION

Ticks are small, blood sucking, wingless insects. A tick is small (about the size of a pin head or sesame seed) and can be difficult to see. A tick can have 6 or 8 legs, and can be colored tan, red, brown or black. After sucking blood from an animal or human, it will grow to the size of a small pea and is then called "engorged"

TICK REMOVAL

If you discover a tick attached to your skin, promptly, gently and firmly remove it - preferably with fine-tipped tweezers. Do not use bare fingers. Do not squeeze the tick as this action could propel germs into your body. If tweezers are not available, use a tissue, paper, leaf or paper towel.

- Do not apply mineral oil, vaseline, or anything else to remove the tick as this may cause it to inject the microbe into the wound.
- Be sure to remove the entire tick. Get as close to the mouth as possible and firmly tug on the tick until it releases its grip. Don't twist. If available, use a magnifying glass to make sure that you have removed the entire tick.
- After removing the tick apply an antiseptic such as rubbing alcohol to the site.
- Save the tick in a jar and label it with the date, where you were bitten on your body and your geographic location at the time of the bite for proper identification by your doctor, especially if you develop any symptoms.
- Do not handle the tick.
- Wash your hands immediately.
- Check the site of the bite occasionally to see if any rash develops. If it does, seek medical advice promptly.

SOME FINAL WORDS

These diseases are serious but preventable. Ticks are usually only a nuisance and most do not carry disease. You will be able to safely enjoy all warm weather outdoor activities by taking the simple precautions listed in this brochure and by being alert to the possibility of tick bites. Tick-borne diseases are usually successfully treated when detected early.

NASSAU COUNTY DEPARTMENT OF HEALTH

240 Old Country Road
Mineola, New York 11501







(516) 571-2006



REDUCE YOUR RISK OF LYME DISEASE

 **ACTUAL SIZE**

*For more information, write or call:
Lyme Disease Bureau
Nassau County Department of Health
240 Old Country Road
Mineola, New York 11501
(516) 571-2006*

-  Wear light-colored long sleeve shirts and pants tucked into socks or boots.
-  Stay in the center of paths and trails.
-  Check yourself for ticks every two to three hours while outside and again at home.
-  If desired, carefully apply a tick repellent **according to the directions on the container.** When overused or used improperly, repellents may cause allergic and toxic reactions.
-  Do **not** allow children to apply repellent to themselves.
-  Check pets for ticks regularly.

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